Department of Conservation
California Abandoned Mine Lands Forum
801 K Street
Sacramento, CA 95814

November 17, 2004
Meeting Notes

Facilitator: Chris Harris, Harris and Company

Meeting Summary: Chris Harris, Harris and Company

Attendees:

Cassie Aw-Yang, Somach, Simmons and Dunn
Rob Busby, Regional Water Quality Control Board, Central Valley Region
Chris Harris, Harris & Company
Rick Humphreys, State Water Resources Control Board
Mike Hunerlach, US Geological Survey
Emil C. Meacham, US Forest Service
Patrick Morris, Regional Water Quality Control Board, Central Valley Region
John Lane, Teichert
Eugene Mullenmeister, Shaw Environmental
Donna Podger, Bay Delta Authority
Sarah Reeves, DOC/OMR
Greg Reller, Tetra Tech EM, Inc.
Michael Sandecki, DOC/OMR
Jennifer Soloway, State Water Resources Control Board
Rick Weaver, US Forest Service

Agenda:

I. Welcome, Introductions, and Agenda Review

II. Presentations

III. Announcements

IV. Next Meeting

Meeting:

I. Welcome, Introductions, and Agenda Review

Chris Harris welcomed AML Forum attendees. Meeting participants introduced themselves. The agenda was reviewed and no changes were made.

II. Gravel Mining in Rivers, Michael Sandecki, Staff Environmental Scientist, Department of Conservation

Michael Sandecki's presentation was about mining gravel bars, with a focus on geomorphic principles.

Michael showed a series of slides of gravel mining in California where different kinds of environmental damage had occurred.

- Santa Ynez River near Lompoc where a lot of gravel bar skimming occurs. The heavy equipment is allowed to go wherever it needs to get over the channel.

- Mad River in Northern California where there is tidal influence that submerges the gravel bar. The water is an operating limitation for the gravel miners.

- Southern California, San Gabriel River with extensive aggregate mining. In this case, there is little that can be done to apply geomorphic principles.

- Middle reach of the Napa River near Healdsburg, where large ponds have been sculpted and have become permanent features of the landscape.

- Yuba River near the Garcia aggregate operations, where silica was left behind. They ended up with voids in the flood plain to be dealt with somehow.

- Gold fields, with disrupted flood plain. The sediment processes going on in the channel are taking a hit from the gold mining operations that took place at the turn of the century. Work is being done to find mercury in the tailings. If there is a pit where wetlands could be created, there are contaminants that have to first be dealt with.

Michael said that when he talks about in-stream mining, it's about a "sediment budget". Gravel mining removes part of that important budget. The stream channel acts as a conveyor belt that moves the gravel in the watershed through the system. Different factors affect the sediment budget -- such as soil types, land use processes, and activities like heavy construction Climate also affects the sediment budget.

Michael showed slides of human-introduced facilities that affect the sediment budget, like a dam. The bed load of sediment and sand gets trapped behind the dam. Watersheds can be so changed by the dam processes that the flood plain will be much smaller than before the dams went into effect. Some restoration of scaled-down flood plains is being done.

In the 1950s, geomorphology had a small peak and not much has changed since then. Michael showed a diagram of physical parameters of what stream channel looks like. Each parameter balances off the others. Change one, it impacts others.

Rick Humphreys said there has been a lot of work done on sediment transport models. Michael said that these are mathematical models that aren't very dependable. Some models concentrate on some parameters; other models concentrate on other parameters. About 10 years ago, FEMA looked at sediment transport models. They were interested in updating mapping that had been based upon static conditions. FEMA was looking at sediment transport to see how streams might change flooding within the floodplain. They found that the models couldn't provide predictions reliable enough to base decisions about issuing insurance. What is lacking in the models is the local data, including flooding and local behaviors that apply to the waterbody that was being modeled.

Rick said that models could be based upon mathematical principles or geomorphic conditions. He said he often wondered about what the models were based upon. Michael said models are based more on sediment transport than geomorphic conditions. He said you are lucky if the model reflects reality. A prediction can be made with the model, but then later, there needs to be follow up to tweak the model based upon reality.

Michael said there is a lot of mathematical modeling done and geomorphic science done in the British Isles. It is difficult to make that fit to California. It's even very difficult to apply data from Northern California streams to Southern California streams.

Michael showed a slide of a straight channel, illustrating a channel that is not complex, and distributes sediment very well and efficiently. Trapezoidal channels, if they don't have complexity, are very efficient at moving water and sediment.

He showed a slide of a complex channel, with different grades. This was obviously not efficient at moving sediment.

Michael showed a slide that illustrated curves in a stream, described as "progressive meander development". Deposition to the gravel bar falls on the inside of the curve; erosion and undercutting occurs on the outside of the curve. Deposits move in slugs down the stream, hugging the curves.

He then showed another slide illustrating a buildup of gravel. The foreground of the gravel bar is typically preserved by gravel miners, and the downstream portion is mined. When the foreground of the gravel bar is kept, and the stream begins moving sediment, the stream has to get to a higher flood stage to move a lot of sediment. Miners don't want to erode the storage areas during the lower levels of flood stages. But they do want them to enter the transport regime once the flood stage comes up high enough that there is a lot of material to move. The front portion is kept to provide that protection.

Michael showed the Russian River in the Alexander Valley where the gravel bar had been scalped. A stream bed will recover after several seasons. One of the mitigation measures often proposed is to leave the area alone to allow it to recover.

He showed a slide of Redwood Creek with no habitat or pools, just a straight run all the way down. Fish can't run in this creek anymore.

Michael showed a slide of the Cache Creek channel taken in the mid-1970s. If there is a pit that is mined in the river channel, the material coming downstream gets trapped in the pit; the material downstream gets scoured off. The head-cutting process can become very active.

He showed a pit 80-90 feet deep on an alluvial fan in Riverside County -- the channel has been trained around the pit to avoid the pit, but just the little bit of water collecting contributes to erosion.

Patrick Morris asked about pits in Cache Creek. Michael said that within the last 8 years, gravel mining was moved out into the flood plain. The gravel management plan for Cache Creek has a caveat that allows channel maintenance but a mining ordinance is needed to do that maintenance. In the past, mining was done far in excess of what could be replenished. This situation has changed very much with the gravel management plan.

John Lane said that none of Teichert's operation allows in-stream mining. He asked how much in-stream mining occurs today. Michael said that in-stream material is very valuable to mining companies. Some regions go further than others to prevent in-stream mining, and gave the example of Humboldt County restrictions. In the Central Valley, except for smaller stream channels, the rivers have been depleted of resources for in-stream mining. The American River is not a good source of gravel. If you go up the valley, Michael listed several streams with in-stream mining.

Michael showed several slides of head-cutting with erosion migrating upstream, working its way to undermine a bridges and other infrastructure.

- Mad River in Humboldt County, showed where layers and layers have been added to a bridge foundation to deal with under-cutting.

- San Louis River where a bridge had to be closed and replaced.

- San Benito County where a bridge was fortified.

These improvements are very expensive.

There are other issues besides infrastructure that are affected by channel activities. Michael showed a collector that relies upon a certain amount of gravel for filtration.

Jennifer Soloway asked if anyone was going after mining companies to pay for corrections. Michael described SAMARA to try to achieve a balance of responsibility. Michael said that the DOC is hosting an interagency forum called STREAM, involving Caltrans, F&G, DWR, etc. Jennifer said that she never heard about bridges being undermined or problems with habitats. These are serious situations and should be referred to regulators.

John Lane said that the gravel companies do not work in the regulatory vacuum. Teichert's operations are covered by regulations issued by the water boards, fish and game, and other regulators. Where they can mine is specified. There is a lot of regulatory action. He said that some of the photos Michael showed are old, and some of the problems may be grandfathered in. If gravel mining is causing problems, there are mechanisms to go after the mining companies.

Jennifer Soloway said there is no such thing as grandfathering in situations creating environmental damage. From a regulatory standpoint, through Porter Cologne, gravel miners can be ordered to fix it. Rick Weaver said the agencies are under funded and under staffed.

John Lane said that mines have waste discharge requirements / restrictions issued by the regional board. The negative situations shown in this presentation are not that widespread. If the mining activities caused a bridge to fail, they are going to be held responsible. Mining companies can't allow the image to continue because they have to get permits for future operations.

Michael said everybody is right. It's a cumulative situation. Regulators are understaffed. It is not a problem that is everywhere. Teichert is not culpable for a lot of the things he's shown in these slides.

Michael said that some gravel mining can still be done in-stream. The challenge is getting the data: topographic surveys of the channel, sequential topography to get record of progression, and aerial surveys.

John Lane said that Teichert's permits require monthly aerial photos and the other record keeping that Michael described.

Michael said that reclamation is done with lead agency in California (city or county). The state takes over when lead agencies don't do their job.
There are only ten counties that are doing reclamation well and 10 others that are learning to do it well. Sonoma County and Humboldt County have great in-stream mining programs. Other counties don't see that in-stream mining will work anymore.

STREAM meetings are not open to the public at this time, as they are inter-agency meetings with state and federal agencies. Industry is not participating at this point. Jim Pompey is with reclamation program and is overseeing STREAM. It was set up with the Resources Agency.

Second Presentation: Brief Guide for Governmental Agencies, Managing Legal Risks Associated with Abandoned Mine Reclamation -- Jennifer Soloway, Staff Counsel, State Water Resources Control Board

Jennifer got involved in this effort when she reviewed the first draft guide and then re-wrote it. The draft she distributed at the AML Forum meeting is just a strawman. AML Forum members need to review and comment. DTSC needs to take a look and comment. She did not include anything on SAMARA. She said there are still possible inaccuracies in the draft and asked that AML Forum members work with Doug Craig and/or Sarah Reeves on anything that we believe should be changed and corrected.

Jennifer gave her background in part as having worked on Penn Mine, Good Samaritan state and federal bills, and on the Buena Vista and Klau Mines in San Luis Obispo County. She used each of these to illustrate managing legal risks of abandoned mine reclamation.

In the 1950s, fish kills were documented by the Department of Fish and Game and blamed on acid mine drainage from Penn Mine. People in the community started pressuring the water boards to do something about it. In the 1970s, East Bay Municipal Utility District bought a piece of the watershed to build the Camanche Dam. The Board at EBMUD took on what they thought would be a minor project to hopefully end acid mine drainage and end fish kills. They modified the ponds. Unfortunately, ponds were not sized properly but fish kills during winter storms were eliminated. Still, Jennifer said that the operation was fairly crude and little maintenance was done.

In 1984, Regional Board gave itself an exemption to clean up surface impounds in this area. The Committee to Save Mokelumne formed, protested and sued under the Toxic Pit Cleanup Act (TPCA). EBMUD was ordered to treat acid mine discharge.

This was a big deal because treating such discharge is very expensive and complicated. It was also a big deal because it was considered unfair to the Good Samaritans who did not create the waste and made attempts to clean it up.

Rick Humphreys said he thought about it a long time, and wondered about EBMUD using eminent domain to take over the property. He said: suppose a 3rd party came in and said they wanted to do something. Would the Regional Board have had any problem issuing an NPDES Permit? Jennifer said the Regional Board said that nobody owned the mines and thereby did not own the source of pollution.

Rick Weaver asked about the copper numbers of 6 ppm. Jennifer said these were set before California Toxics Rule came in. The upper stream dictated the allowable levels. Copper was the most stringent and was a controlling number, which was based on what the fish could tolerate without dying.

District and Circuit courts ruled for CSM, and EBMUD was found liable because they channeled the Acid Mine Discharge. If EBMUD had done nothing, chances are the courts would not have decided against them. EBMUD and Regional Board had to build a $10 million landfill which they own and have to take care of.

Jennifer said the goal of the Guide is to:

- Enable government agencies to implement reclamation as planned
- Minimize risks of environmental liability
- Assess and balance legal risks

Jennifer advises government agencies to really assess their potential for successful cleanups. She said that the guide could have a section on SAMARA. Patrick Morris asked if he could use the guide's definition to call something an "Abandoned Mine". Jennifer said yes, contrary to popular belief, there are true abandoned mines. For example, nobody has taken title of the Penn Mine.

She said that the bottom line is that for any complex project, with any with significant AMD discharge and surface water impacts, first talk to EPA and get some kind of written agreement. Let them know you want to do some kind of clean up but that you can't without the agreement.

Donna Podger asked about an agency's liability if they've given a grant to another party that has been held liable for something. Jennifer said the granting agency should have a contract with the grantee, with a hold-harmless clause, and she knows of no situation that the granting agency got stuck with liability.

Jennifer emphasized that the guide might need a second part of "what if" … to help respond to questions such as Donna's. She said that Doug Craig had asked Jennifer to rate liabilities, and she would rank giving a grant as low liability.

Jennifer reviewed major Federal Laws: RCRA Subtitle C, RCRA Sections 7002 and 7003, the Clean Water Act and NPDES Permits, and CERCLA. She reviewed major State Laws: Porter Cologne Water Quality Control Act, Toxic Pits Cleanup Act, Bevill Waste and others.

In state laws, DTSC issues permits for managing and disposing of acid mine drainage. Subtitle D laws pertain to non-hazardous waste. Senator Bevill introduced the Bevill Waste amendment to RCRA – mining of ore will not be regulated under Subtitle C but would continue to be regulated by all other laws.

Rick Weaver said in the Sierras, if you add a sluice box, it's part of the extraction. Jennifer said an attorney would have to tell whether that was Bevill waste.

Greg Reller said the EPA evaluates that issue on a case by case basis. There is also a California mine waste classification and its own Bevill amendment. Jennifer's basic advice is if you think you'll be dealing with acid mine drainage, get together with DTSC.

Jennifer said that under federal law RCRA 7003, the court can give you any order to abate environmental endangerment. This allowed under citizen lawsuit.

Rick Humphreys asked if someone could come in and still sue Penn Mine now. Jennifer thinks they would probably lose because State got the creeks identified as waters of the U.S.

Jennifer gave many examples to illustrate CERCLA laws. She said:

- EPA can order responsible parties to clean up release of hazardous substances
- EPA can use Superfund and do cleanup themselves and sue responsible parties for cost recovery
- One or more responsible parties could do all or part of the clean up and sue others for cost recovery
- Federal, state and tribal natural resources trustees can sue responsible parties for natural resource damages

CERCLA is a cost recovery, cleanup process

Rick Humphreys asked if examples of other CERCLA cleanups could be included in the guide. Jennifer welcomed them and said to send them to Doug Craig or Sarah Reeves.

Donna Podger voiced AML Forum's appreciation for Jennifer's work to write the draft guide.

Jennifer discussed the example of Leviathan Mine where the owners/buyers anticipated getting cleanup money that didn't materialize. The buyer could have demanded that the sellers retain responsibility for the mine cleanup, but they did not, and the buyer became responsible for the cleanup. Under CERCLA laws,

fault is not an issue; the owner is liable regardless of fault. Courts can apportion liability if there are several RPs.

Jennifer reviewed several of the laws. She said citizen lawsuits are barred if EPA is responding to the site under CERCLA. If you are working with EPA to implement a cleanup, you'll be shielded from citizen suit. She talked about the liability of a bona fide purchaser related to the Brownfields Revitalization Act. In most cases, there are things attorneys can do to help provide protection related to liability; often those steps involve early discussions with EPA and getting agreements in writing. There are grants to assist with Brownfields cleanup. A good website is: www.epa.gov/brownfields

Jennifer talked about CERCLA Good Samaritan sections. Years ago, when Colorado was trying to do more cleanups, they had a blanket clause to give them protection under CERCLA liability. This was one of the mechanisms that EPA Region 8 used to provide the protection to Colorado. In the case of the State responding to a spill or other emergency, it would not be liable under CERCLA unless it was negligent.

She said there were many possible agreements that could be developed with EPA.

- Bona fide purchaser
- Section 107 d 1
- Consent Decree or Administrative Order (usually if you are already an RP)
- Use your imagination.

Jennifer advised the group to avoid the "Fly Paper Syndrome" which is what happens when you intend to do a limited project and get stuck with doing complete remediation of site. She said:

- Make an effort to find current and past mine owners and operators.
- Act like a regulator.
- Assess size of problem and budget to completely fix it.
- Don't jump in and take title without really thinking it through.
- Plan the end of the project and tell people. Take care of expectations in the community. Make sure finite project is defined and others know.

- Contact California Mining Association for references for help. You may want to bring in consultants. Use best scientific and engineering practices. Limited and primitive fixes aren't allowed in today's environment.
- Use technical advisory committee if necessary, particularly for innovative projects.
- Consultants, advisors etc. can help you build a strong record.
- Assess political environment, public, staff comfort with the proposed project.
- Formally involve EPA; in writing.
- Take advantage of liability protections and consult your attorneys.

Donna Podger asked if there are specific activities that have lower rather than higher liabilities? Jennifer said to do very careful research.

(Because of the time, no AML Project updates were given.)

III. Next Meeting:

February 23, 2005

9 a.m. - Noon

John Muir Conference Room
801 K Street, 20th Floor
Sacramento, Ca. 95814